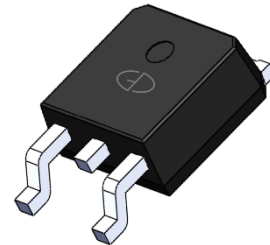


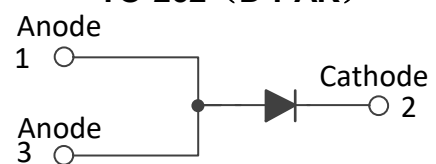
## 5A,200V Schottky Barrier Rectifier

### Features

- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has underwriters Laboratory  
Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21



**TO-252 (D-PAK)**



### Applications

- SMPS
- Lighting
- UPS

### Mechanical Data

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 2500 units per reel

### Maximum Ratings & Electrical Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	MBRD5200S	Unit
Maximum repetitive peak reverse voltage	VRRM	200	V
Working peak reverse voltage	VRMS	140	V
Maximum DC blocking voltage	VDC	200	V
Maximum average forward rectified current	IF(AV)	5	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load per diode	IFSM	110	A
Voltage rate of change (rated VR)	dv/dt	10000	V/uS
Operating junction temperature range	TJ	-55 to +150	°C
Storage temperature range	TSTG	-55 to +150	°C

<b>Electrical Specifications</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)					
Parameter	Symbol	Test Conditions	Typ	Max	Unit
Forward drop voltage (Note1)	$V_F$	$I_F=5\text{A}, T_J=25^{\circ}\text{C}$	0.81	0.95	V
		$I_F=5\text{A}, T_J=125^{\circ}\text{C}$	-	0.88	
Reverse leakage current @VR (Note2)	$I_R$	$T_J=25^{\circ}\text{C}$	-	200	$\mu\text{A}$
		$T_J=100^{\circ}\text{C}$	-	15	mA

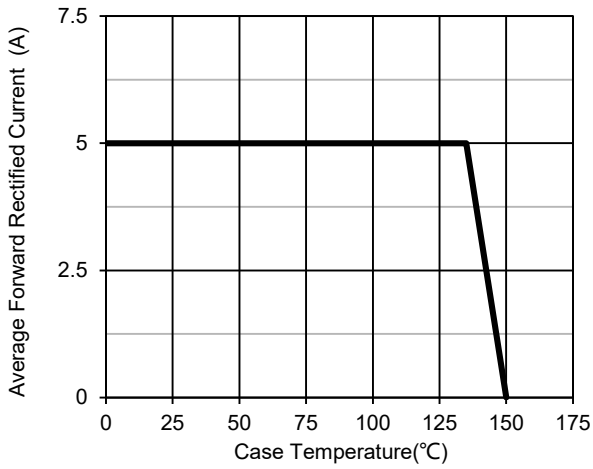
<b>Thermal-Mechanical Specifications</b> ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)			
Parameter	Symbol	Typ	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	4	$^{\circ}\text{C}/\text{W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	$^{\circ}\text{C}/\text{W}$

Note:

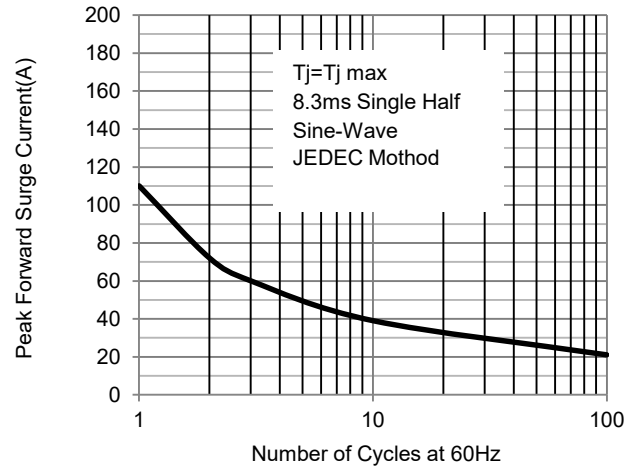
1. Pulse test with  $PW=0.3\text{ms}$ , duty cycle=2%
2. Pulse test with  $PW=30\text{ms}$

## Ratings and Characteristics Curves

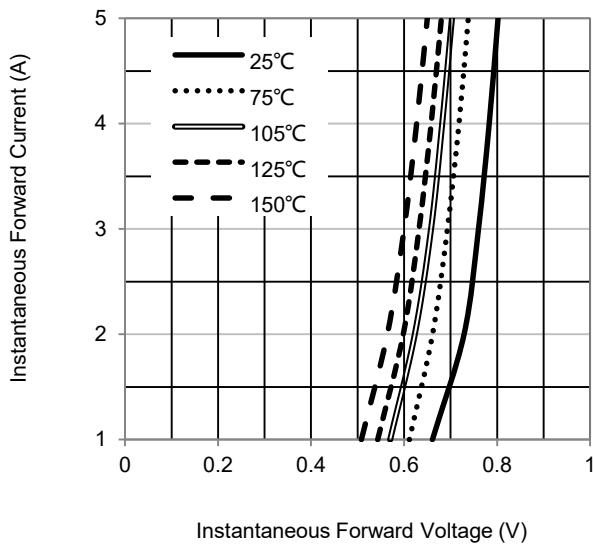
(TA = 25°C unless otherwise noted)



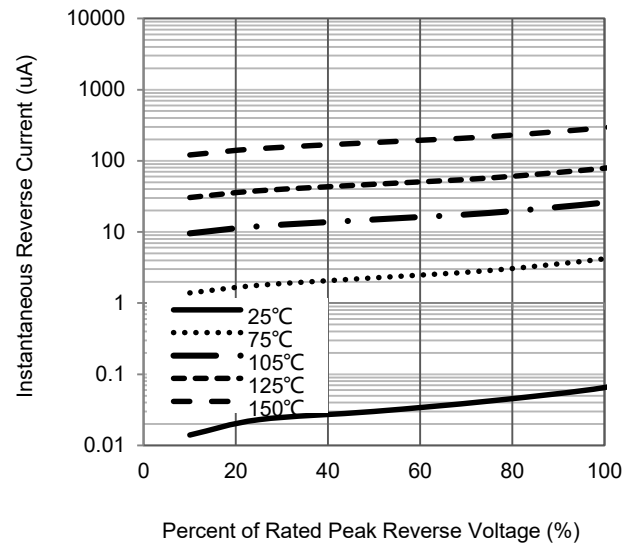
**Fig.1 – Forward Current Derating Curve**



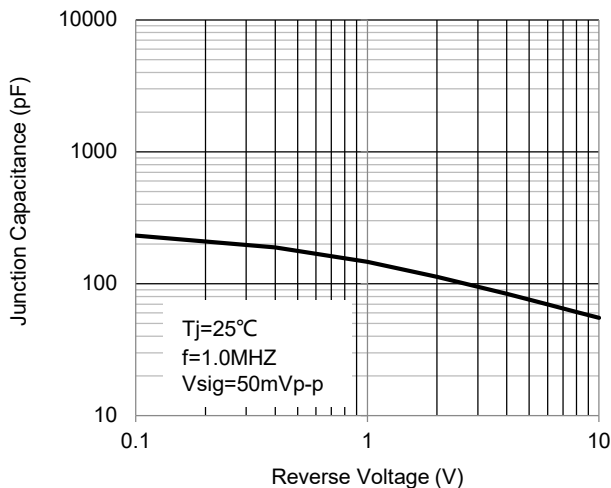
**Fig.2 – Maximum Non-Repetitive Surge Current**



**Fig.3 – Typical Forward Voltage Characteristics**



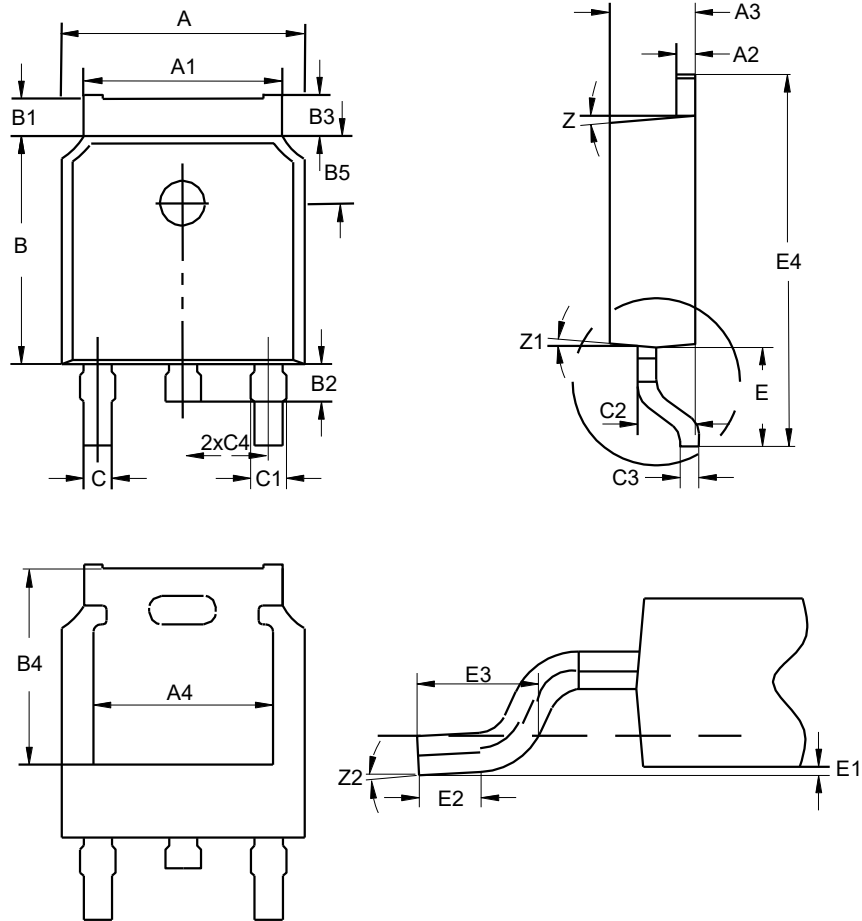
**Fig.4 – Typical Reverse Current Characteristics**



**Fig.5 – Typical Junction Capacitance**

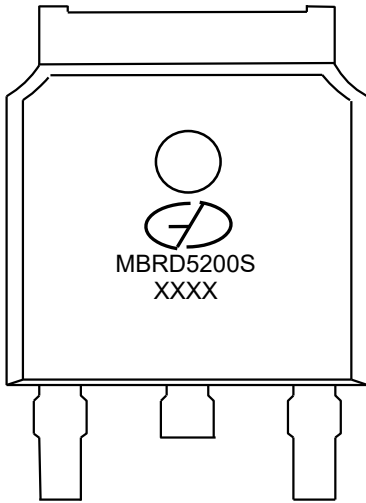
## Package Outline Dimensions (Unit: millimeters)


### TO-252 (D-PAK)



TO-252							
	Min.	Nom.	Max.		Min.	Nom.	Max.
A	6.34	6.54	6.74	C1	0.65	0.85	1.05
A1	5.1	5.3	5.5	C2	1.34	1.54	1.74
A2	0.4	0.5	0.6	C3	0.4	0.5	0.6
A3	2.08	2.28	2.48	C4	2.09	2.29	2.49
A4	4.6	4.8	5.0	E	2.6	2.9	3.2
B	5.8	6.1	6.4	E1	0		0.15
B1	0.82	1.02	1.22	E2	0.7		
B2	0.8	1	1.2	E3	1.3	1.6	1.9
B3	0.9	1.1	1.3	E4	9.8	10.1	10.4
B4	5.05	5.25	5.45	Z		7°	
B5	7.83	8.03	8.23	Z1		7°	
C	0.56	0.76	0.96	Z2	0°		10°

## Marking Outline



1. Logo Mark: 
2. Part Name: MBRD5200S
3. Data code: XXXX

## Revision History

Document Version	Date of release	Description of changes
Rev.A	2022.01.11	Preliminary Datasheet

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